CLAIMS

1. A catheter, provided with an elongated body having an electrically conductive first end, wherein at least one current-carrying wire extends through said body, which wire is connected to said first end, and a channel for supplying a cooling fluid through said body extends through said body, which channel is provided with at least one outlet opening in or near said first end and wherein a temperature sensor is arranged in said first end, wherein said channel is thermally insulated from said first end.

2. A catheter according to claim 1, wherein said at least one outflow opening is provided in said first end.

3. A catheter according to claim 1 or 2, wherein said channel has a longitudinal direction and a series of outlet openings is provided, which outlet openings are arranged such that, during use, cooling fluid supplied through said channel flows out through said outlet openings in an outflow direction which forms an angle with said longitudinal direction.

4. A catheter according to claim 1 or 2, wherein the outlet openings are provided with a thermally insulating inner casing.

5. A catheter according to one of the preceding claims, wherein at least one said outlet opening is provided in said body, adjacent said first end.

6. A catheter according to one of the preceding claims, wherein said first end is attached to said body, wherein said temperature sensor is provided in said first end at a distance from an interface formed between said body and said first end.

7. A catheter according to one of the preceding claims, wherein the outlet openings are formed such that cooling fluid flowing therefrom during use flows away from said first end.

8. A catheter according to one of the preceding claims, wherein said first end has at least one metal exterior.

9. A method for thermal treatment, in particular ablation, wherein a catheter having an electrically conductive first end is arranged in a body cavity, with said first end near or, preferably, against a wall of said body cavity, wherein a complementary electrically conductive element is arranged at a distance from said first end, preferably outside the body in which said cavity is located, whereupon an electric current is generated between said first end and said conductive element, such that said wall is heated, wherein a cooling fluid is dispensed adjacent said first end, wherein the temperature of said first end is measured and is regulated, wherein direct cooling of said first end from the inside thereof by said cooling fluid is prevented.

10. A method according to claim 9, wherein said cooling fluid is supplied through a channel in said catheter and is dispensed in said protein-containing fluid, wherein said cooling fluid in said catheter is separated by thermal insulation from at least said first end.

11. A method according to claim 9 or 10, wherein the cooling fluid is dispensed in a protein-containing fluid such as blood around said first end such that said protein-containing fluid is cooled with the aid of said cooling fluid adjacent an interface between said protein-containing fluid and said wall and near the exterior of said first end and is kept at a temperature below the coagulation temperature of said protein-containing fluid.

12. A method according to one of claims 9-11, wherein said ablation is performed in a body cavity within which blood is present as fluid, wherein the temperature of said blood is kept at a temperature below approximately 55°C and the temperature of said first end is regulated such that it remains below approximately 65°C.

13. A method according to one of claim 9-12, wherein a physiological saline solution is used as the cooling fluid, which is introduced into said protein-containing fluid such that turbulence occurs in said protein-containing fluid around said first end.